

# **Recycling & Solid Waste**

## **Questions & Answers**

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# **Recycling & Solid Waste**

## **Questions and Answers**

### **Recycling**

1. **What is Recycling?**

Recycling is the process of collecting, separating, processing, and selling recyclable materials so they can be turned into new products. Simply put, recycling is taking something old and worn-out and turning it into something new.

2. **What are some items at your home that can be recycled?**

There are many items in your home that can often be recycled in your community. These items include aluminum and steel cans, newspapers, corrugated boxes, telephone books, plastic and glass bottles, used motor oil, large appliances, rechargeable batteries, automotive batteries and tires, clothing, and yard and food waste.

3. **Why is it that some people do not recycle?**

Comments most often used by people who don't recycle include 1) takes too much time out of their day, 2) inconvenient, 3) too many other things to do, 4) don't have enough recyclable materials at home, 5) forget the recycling pickup day and 6) don't know what to recycle. Those that do recycle can tell you that once you get into the habit, it becomes second nature, takes very little time, and becomes part of your daily activities. Finally, many people do not see recyclables as resources for new products but as trash to be placed in their garbage can. Education is the key if we are to make recycling a success in our communities and state.

4. **What is made from recyclable materials?**

Aluminum cans are melted down and recycled into new aluminum cans and other products made of aluminum. Steel cans are melted down and recycled into new steel cans and other products made of steel. Newspapers and telephone books are ground up and made into newsprint, cereal boxes, cellulose insulation for keeping homes warm, paper egg cartons, and ceiling tiles. Corrugated boxes are ground up and made into more corrugated boxes. Glass bottles are crushed, melted and recycled into more glass bottles, or used along with sand and gravel in asphalt roads. Plastic bottles such as soft drink and water bottles are ground up, washed and melted to produce fiber for carpet and clothing. Plastic bottles such as milk, shampoo and detergent bottles are ground up, washed and melted to produce plastic parts for automobiles, plastic lumber and other plastic products. Used motor oil is generally burned for fuel as an alternative energy resource in industrial facilities. Automobile scrap tires are generally chipped and burned as a fuel in place of or in addition to coal. Scrap tires are also manufactured into numerous rubber products including rubber mats and rubber bumpers. Yard and food waste can be composted in your backyard. Since the compost contains plenty of nitrogen and other organic nutrients, it is great in gardens and flower beds.

5. **What can be done with some difficult to recycle items that are found in the home?**

Items such as used motor oil, automotive batteries and tires, paint, home cleaning products, pesticides, rechargeable batteries and large appliances are sometimes considered special wastes and must be recycled/disposed of with greater care. Used motor oil can be recycled at several locations in most communities including AutoZone, Advanced Auto Parts, and Wal-Mart Supercenter's Tire and Lube Center. In addition, some quick lube centers will also accept used motor oil from the public for disposal. Automotive batteries and tires are recycled when you leave them at the retailer where you purchased them. Automotive battery retailers are required by state law to accept an old battery when selling a new battery. In addition, some automotive battery

retailers will accept an old battery without the purchase of a new one. Scrap tire collection sites are available to the public in one or more locations in each county as required by state law. Check with your County Board of Supervisors to learn where the site is in your area for scrap tire disposal. Paint, cleaning products, and pesticides should be used for their intended purpose. If they cannot be used up, either give them to a neighbor or organization that can use them, or take them to a household hazardous waste collection event in your area. Rechargeable batteries including nickel-cadmium and nickel metal hydride batteries can be recycled by calling 1/800-8BATTERY to find out your nearest collection site. Large appliances including refrigerators, freezers, washers and dryers are often collected for recycling at special sites by the community or county. You'll need to contact your county or city solid waste official to see what you're required to do with these large appliances.

**6. Why is it so important to recycle?**

Recycling is important for several reasons. 1) Recycling conserves natural resources. Some of these natural resources such as oil, natural gas and minerals are non-renewable resources. Simply put, they don't get replaced as we pull them out of the ground. Once they're gone, they're gone forever. 2) Recycling conserves landfill space. Landfill space will last longer if we only put items that are not recyclable into them. It costs a great deal of money to build a landfill and we need to be careful how much and how fast we fill them up. 3) Recycling employs people. Recycling employs people who a) collect the recyclable material, b) process the material or get it ready to sell to a manufacturer, c) transport the materials to factories where it will be turned into new products, d) take the material and manufacture it into new products, e) manufacture equipment and products used by the recycling industry, and f) manage local, state and federal government recycling programs and private and non-profit recycling programs. 4) Recycling conserves energy. Without question, recycling conserves the energy that would be necessary to create the same product from its raw resource. 5) Recycling reduces our dependence on overseas natural resources. This is important in two very important ways, a) it reduces our dependence on overseas oil and gas which has national security implications and b) it reduces our foreign trade deficit which is important to the strength of our economy.

**7. Isn't there plenty of money to be made by recycling?**

Recycling can make money, but it also has many expenses related to it. Expenses are incurred in collecting and transporting the recyclable materials to the recycling facility; in sorting, processing and loading the recyclable materials at the recycling facility; and in transporting the recyclable materials to market. Sometimes all these costs can be equal to or more than what the recycling facility receives for the recyclable material they sell to the manufacturing facility. Much depends on the state of the economy of the country as to the value of the recyclables. If people are not buying products, the manufacturers won't pay a high price for the materials they are purchasing from the recycling facilities. The better the U.S. economy, the more value there will be in recyclable materials.

**8. What does the recycling symbol with the three arrows represent?**

The recycling symbol with the three arrows represents the three steps in the recycling process. 1) Collection and processing of recyclable materials, 2) Manufacturing of those materials into new products, and 3) Products sold to consumers which then starts the process over again.

Contact MDEQ's Recycling and Solid Waste Reduction Program at 601/961-5171 for more information on recycling and establishing a recycling program in your community, business and/or school.

# Composting

1. **What is composting?**

Composting is the process of converting organic materials such as grass, leaves, food waste, woody material, and manure into humus, a soil-like material.

2. **Why is composting important?**

Composting is important because it puts organic materials back into the ground which is necessary for a naturally healthy lawn and garden. In addition, composting is important because it's a better alternative than sending these natural organic materials to the landfill.

3. **How does composting work?**

When grass, leaves, food waste, manure and woody material are placed on the ground, microorganisms from the ground begin to eat the material. The breakdown of this material is sped up with assistance from air (oxygen), water, and sunlight. Generally it will take several months for the material to become compost and that will also depend on how often you turn the pile of material.

4. **What can be done to stop the foul smell sometimes emitted by a compost pile?**

Smelly compost piles can be avoided by not placing meats, oils, dairy products, and pet waste in the compost pile. Also, too many grass clippings (source of nitrogen) can cause the compost pile to smell.

5. **Where can you put a compost pile?**

Compost piles need to be placed in an area that is well drained and receives good sunlight for heat. Other than those two items, just go out and compost.

6. **What can the average person do to increase composting activities in their community?**

For starters, the average person can get a compost pile started in their backyard. When you have friends and family over, show them how simple it is to make it work and the great compost and humus that is generated for the lawn and garden. You can also work with your local school to get a compost program started or put them in touch with MDEQ so that information and other materials on starting a compost program can be provided to them.

7. **What can you do with the final compost material?**

The final compost and humus material from a compost pile can be added to your garden, lawn and potted plants. It is often high in nitrogen which your plants need.

8. **Can earthworms help in the composting process?**

Earthworms are actually a good sign of healthy soil. Vermi-composting, which is the use of earthworms in composting, is very important in the composting process. In fact, earthworms can greatly speed up the composting process and the castings, earthworm poop, is high in nitrogen. Also, one pound of earthworms can devour up to 6 pounds of food waste a week.

Contact MDEQ's Recycling and Solid Waste Reduction Program at 601/961-5171 for more information on composting, vermi-composting, and establishing a program at your home and/or school.

## **Source Reduction**

### **1. What is source reduction?**

Source reduction is, in very simple terms, creating the same product with less waste or materials, including hazardous and non-hazardous waste materials. Source reduction occurs during the early stages of the manufacturing of a product. If source reduction is done properly by the manufacturer, a manufactured item will be made using less waste materials which means less materials landfilled, incinerated, or recycled by either manufacturer, retailer or consumer. The reduction of packaging waste is one prominent example of source reduction seen by the consumer.

### **2. What can people do to support source reduction?**

Most of the time source reduction is something that industry does to create less solid or hazardous waste in the production end of a manufactured product. The consumers can, in a limited way, support source reduction by carefully watching what they purchase at the store. Look for, support and buy products that have minimal packaging and products that are refillable, reusable, and rechargeable. This helps in source reduction of solid and hazardous waste. When consumers purchase packaging intensive products such as single-serving and disposable products, you are effectively telling the industry that you support these resource wasting products, and to please keep making them. Often this will cause a product that is made of multiple uses to be eventually discontinued due to consumer choice and demand for disposable products.

### **3. Is source reduction good for the environment?**

Source reduction is definitely good for the environment. It is actually a better alternative than recycling, incineration and landfilling. In the case of source reduction, if you don't produce the waste in the first place then there is nothing to recycle, incinerate or landfill. Source reduction means fewer resources are used in the production of a product.

### **4. Why don't we have more industries doing source reduction?**

More industries are doing source reduction. It saves them money, which creates higher profits. Less waste equals more profits. The marketing department and packaging designers often dictate the quantity of product packaging. If the marketing people of a particular product find that more packaging or fancier packaging will sell more of the product, then they will generally go with the additional packaging.

### **5. What are some examples of source reduction?**

Example 1: Industry has over the last several years made aluminum cans and plastic bottles lighter. Industry calls this technique lightweighting. There is less material going into the construction of the container, but at the same time keeping the container strength high enough where the container won't break if dropped. Example 2: The process of depainting (removal of old paint) airplanes was often done with chemical strippers that were harmful to the environment and the workers doing the paint removal. This process often resulted in thousands of pounds of hazardous materials being disposed of at a large cost after the project was completed. Today planes are often repainted using small plastic beads shot at a high velocity to efficiently remove the paint from the plane. The beads can then be reused numerous times before being recycled into new plastic products. Example 3: Industry has reduced the amount of packaging waste that goes into products. Some products, such as deodorant, use to be sold in a box, but now are sold as stand alone containers on the store shelves.

## **Incineration/Energy Recovery Facilities**

### **1. What is an incinerator?**

An incinerator is facility in which the burning of wastes takes place. Sometimes the heat created from the burning of waste can be used to boil water and create steam to run generators, which in turn generates energy for nearby industries.

### **2. What is burned in an incinerator?**

All incinerators are required to be permitted by the state of Mississippi. Some facilities are permitted to burn municipal and industrial solid waste which generally includes household garbage, corrugated, and office paper, and plastics. Other incinerators may be permitted to burn medical wastes, hazardous wastes, and/or chipped scrap tires.

### **3. Is an incinerator good for the environment?**

Incinerators can be good for the environment simply because they greatly reduce the volume of materials that go to the landfills. In some cases, incinerators are permitted to burn hazardous wastes which would otherwise be buried in the ground in a hazardous waste landfill.

### **4. How does an incinerator work?**

Waste material is brought to the incinerator facility where it is loaded into one of several burn chambers. The waste is burned for several hours until it is reduced to ashes and molten metal. The remaining ash is then transported to a landfill for final disposal.

### **5. How can an incinerator help reduce pollution?**

Incinerators are permitted to emit certain air pollutants within a range that is not harmful to human health and the environment. The incinerator must be designed with appropriate pollution control equipment that removes small particles from the emissions prior to the discharge into the atmosphere. In burning the waste, an incinerator reduces the volume of waste material going to the landfill by 80 to 90%.

### **6. Are incinerators hazardous to plants, animals, and people?**

When operated as permitted, incinerators should not be hazardous to plants, animals and people.

### **7. Why do we need to burn garbage in incinerators?**

Incinerators are one of several options for disposal of solid and hazardous waste. Local planners and government leaders determine which is the most economical measures for disposing of solid and hazardous waste. Depending on the location and amount of waste, an incinerator could be an economical way of disposing of waste.

### **8. How many incinerators are there in Mississippi?**

There are numerous incinerators across the state that are permitted to burn specific materials. Some of these include incinerators at hospitals which burn medical waste and incinerators at grocery stores which burn corrugated waste.

### **9. How do they build an incinerator so it doesn't harm the environment?**

Incinerators are designed by engineers to meet certain air emission standards and to limit pollution that could be harmful to human health and the environment.

## Household Hazardous Waste

### 1. What are household hazardous wastes?

Household hazardous wastes are wastes that can be found around the home that are 1) flammable – burns easily, 2) toxic – poisonous or capable of causing acute illness, 3) corrosive – eats through other materials, and 4) reactive – capable of exploding if exposed to heat, air, water or shock.

### 2. Why do we produce household hazardous waste?

Household hazardous waste is produced from products we use around the house such as oven cleaners, drain openers, yard chemicals, paint/stains, and paint removers/thinners.

### 3. Can we use things that are less hazardous around the house?

There are numerous natural and non-toxic products that can be used around the house in place of the usual hazardous cleaning products. These include baking soda, vinegar and numerous other products. Contact MDEQ's Recycling and Solid Waste Reduction Program at 601/961-5171 for a list of alternative natural household cleaning products. Visit our website at [www.deq.state.ms.us](http://www.deq.state.ms.us).

### 4. Can household waste be disposed of safely?

Household cleaners should be completely used if at all possible to reduce the amount for disposal. Take leftover chemicals to a household hazardous waste collection event if one is conducted in your area.

## Litter and Litter Prevention

### 1. What is litter?

Litter is simply scattered misplaced solid waste/garbage. Littering can be someone throwing a can, cigarette or napkin out the car window, trash blowing out the back of a pickup truck or garbage truck, or someone throwing their household trash onto the side of the road.

### 2. Can littering effect animals and our environment?

Yes, littering can effect plants, animals and our environment. When animals ingest litter or cross a busy road or highway to get to litter that has the scent of food on it, they can be put into danger by cars or trucks traveling that road. The environment can be effected by littering because some little such as motor oil containers deposited on the side of the road or similar automotive waste can wash into nearby streams or lakes impacting fish and wildlife.

### 3. Why do we say littering is wasteful?

Littering wastes millions of tax dollars each year when government has to pay for the cleanup and removal of litter from highways, streets and beaches across the state. If people had put this trash in a garbage container, or a car trash bag, the trash would not have had to be cleaned up on the sides of the roads.

### 4. Can littering cause accidents on the road?

Littering can cause accidents when litter blows from uncovered vehicles or blows off when it is not well secured to the vehicle. Vehicles traveling close by could get involved in a traffic accident simply trying to avoid litter flying from a vehicle or not paying close attention to the road.



5. **Can people be punished for littering?**

Yes, there is a fine for littering. A minimum of \$50 and a maximum of \$250 fine can be imposed on someone found littering in Mississippi.

6. **What should we do if we see someone littering?**

If you observe someone littering, call 1/800-545-3764 and give the tag number, a brief description of the vehicle (make, model and color), and the date, time and location. Keep Mississippi Beautiful/People Against Litter (KMB/PAL), which is a non-profit advocacy organization, will provide this information to the Mississippi Highway Safety Patrol and they send the offender a letter.

7. **What can we do to help clean up litter?**

In the spring, KMB/PAL and local affiliates work to get citizens to clean up across the state by participating in Keep America Beautiful's Great American Clean Up. In addition, KMB/PAL provides trash bags, banners and posters to all cities and counties in Mississippi. Get involved by contacting KMB and/or an affiliate listed in the Resource Information in the back section of this booklet.

8. **What can we do to teach children and adults not to litter?**

We need to make people aware of the economic impact, the impact on tourism and the criminal element associated with litter. Generally, businesses will not locate in an area that has a large littering problem. It shows that the community or area has no concern for the quality of their environment. In addition, property values are lowered because people will not move into an area that has a litter problem. Tourism is also effected because tourists want to visit locations that are clean and beautiful and not trashed and ugly. KMB/PAL is available to make presentations to schools, clubs and other groups on litter prevention.

9. **Why are litter laws not enforced in our communities and counties?**

KMB/PAL is working through education and incentives to get law enforcement officers to enforce all the laws in Mississippi, not just the high profile laws.

10. **How much litter is thrown on the ground each year in Mississippi?**

There are no statistics on the amount of litter thrown on the ground in Mississippi each year. Just look along the roadsides to see all the needless litter and you'll see that it adds up to a large amount of waste needlessly thrown out onto our roads and streets.

11. **Do you think people will stop littering if they are fined?**

KMB/PAL believes a combination of education, enforcement and elimination are the answers to our litter problem. Probably when a person is fined, they will think twice before littering again.

## **Illegal Dumping/Burn Barrels**

1. **What is illegal dumping and burn barrels?**

Illegal dumping and burn barrels are two illegal ways in which some people dispose of their garbage. Dumping garbage on the side of the road or out in the rural area behind your home is illegal. The same goes for burning your garbage in a burn barrel or 55 gallon steel drum.

2. **Why do we have illegal dumping and burn barrels?**

We have people who dump garbage illegally or who burn garbage in burn barrels because they don't know any better, or because they refuse to pay for garbage collection/disposal. This doesn't change the fact that this is against the laws of the state of Mississippi.

3. **Are illegal dumping and burn barrels bad for the environment and community?**

Illegal dumping can contaminate nearby rivers, streams and lakes. It can contaminate underground water resources which the majority of Mississippians use for drinking water. Illegal dumps can also be very harmful to wildlife in the immediate area and may cause health risks to people who live nearby. Burning your garbage in a burn barrel can cause immediate harm to local air quality, especially to nearby homes and the playgrounds. Various toxic pollutants are given off in the burning of various waste materials.

4. **Are there laws against illegal dumping and burn barrels?**

There are several state and federal laws that make it illegal to dump and burn garbage.

5. **How can the average person in Mississippi assist in stopping illegal dumping and burning waste?**

If you are doing this practice at present, stop. Participate in the garbage collection program that is in place in your area. Every county in Mississippi is required to provide garbage collection services to Mississippi citizens. If you know of these illegal activities and who may be doing it, contact your local law enforcement agency and inform them of this illegal activity. If you see someone dumping garbage illegally, take down their tag number and any other descriptive information and turn it over to your local law enforcement agency as soon as possible.

6. **Are illegal dumps cleaned up in Mississippi?**

Illegal dumps are cleaned up in Mississippi as we learn about their location. Quite often it is left to local government to clean these sites in a timely manner before they get out of control. County or municipal governments may receive grant monies from the Mississippi Department of Environmental Quality to assist in cleaning an illegal dump site.

7. **Is dumping garbage in the ocean considered illegal dumping?**

Dumping garbage in the ocean is no different than dumping it on the ground. It is illegal to dump garbage in the ocean and any other waters of the state.

8. **How many illegal dumps are there in Mississippi?**

There are hundreds of illegal dumps in the state, but more and more of them are being cleaned up. However, the problem is in making sure the dumping problem doesn't recur at that site or occur at a new site. Education, enforcement and penalties are the key to preventing illegal dumping and burning garbage.

9. **Are people fined for illegal dumping and using burn barrels?**

Yes, people can be fined for illegally dumping and burning garbage.

# Landfills

## 1. What are landfills and what do they look like?

Simply put, a landfill is a large excavation in the ground prepared specifically for the disposal of garbage. More technically, landfills are highly engineered facilities with elaborate pollution control systems to ensure what is placed there will not leak into underground water resources, nor allow gases to migrate off-site. These pollution control systems include a plastic liner in the bottom of the landfill, an underground drainage system over the liner to allow contaminants to drain to a point for removal and treatment, and groundwater monitoring systems around the perimeter of the landfill. Landfills are the most common way we deal with our municipal solid waste in Mississippi and the United States. If you came to a landfill facility, you would first pass by a truck scale. This scale literally weighs the garbage truck going in while it is full of materials and again on the way out after it has dumped its load so they know how much material was disposed on site. You would see garbage trucks dumping their load of materials into the landfill. These materials are then crushed by heavy bulldozers to decrease the volume and size of the material. At the end of the day the area will be covered by a thin layer of dirt or other approved cover material. The operation will continue in or near the same area the following day.

## 2. Why do we have landfills and are they really necessary?

The garbage that is disposed of each day by municipalities, counties, government, business and industries must be done so in an environmentally safe way in order to protect human health and the environment. Landfills are one way to dispose of our solid waste in a safe way. We have landfills because not every item thrown out or discarded can be recycling or reused.

## 3. Are there different types of landfills?

There are four basic types of landfills for disposing of various types of non-hazardous solid waste. A) There are landfills for use in the disposal of municipal and industrial non-hazardous solid waste (Subtitle D Landfills). These materials come from residential garbage, non-hazardous industrial solid waste and numerous sludges. B) There are landfills that are designed strictly for industrial wastes such as paper mill sludges, foundry wastes, chemical manufacturing wastes and other industrial waste by-products. C) There are also Class I Rubbish Landfills which receive for disposal construction and demolition debris (wood, metal, etc.), brick, mortar, concrete, stone, asphalt, corrugated boxes, natural vegetation (tree limbs, stumps, and leaves), sawdust, wood shavings, wood chips, appliances (other than refrigerators and air conditioners) and other similar wastes. D) There are also Class II Rubbish Landfills which receive for disposal natural vegetation (tree limbs, stumps, and leaves), brick, mortar, concrete, stone, asphalt, and other similar rubbish.

## 4. How many landfills does Mississippi have in the state and how many are needed?

In 2001, Mississippi had 19 municipal solid waste (MSW) landfills spread evenly across the state where municipal and industrial solid waste went for disposal. Before a landfill can be built, the local government and landfill developer must show that there is a need for one to be built. If the need for a landfill cannot be clearly shown, a permit to build and operate the landfill will not be given. There are about 40 industrial waste landfills and approximately 130 rubbish landfills in the state.

## 5. How do you decide where to put a landfill and what are the criteria for locating it there?

The decision where to locate a landfill can be fairly complicated. Factors that come into play when siting a landfill include the following: airport safety, floodplains, wetlands, fault areas, seismic impact zones, unstable areas, hydrocarbon wells and water wells, public water supplies, surface waters, surface water drainage areas, natural geology, air quality, endangered or threatened species, historical or archaeological areas, parks and recreation areas, forests, wilderness areas, wildlife management areas, natural areas, structures, residential areas, property

line setbacks, aesthetics and visibility, local government regulations/solid waste management plans, and transportation factors.

6. **Why are there landfills near communities?**

While landfills are generally near populated areas, these disposal sites are not built immediately adjacent to nearby communities. The laws and regulations of the state of Mississippi do not allow construction of landfills immediately adjacent to communities. Generally landfills are built in fairly isolated areas that have very few homes or businesses around them. Over time development occurs that place homes and businesses closer to landfills often without the home or business owner realizing the landfill is nearby. Often these home or business owners find out about the nearby landfill when an issue arises regarding expansion of the landfill.

7. **Are landfills used all year round?**

Landfills generally operate six days a week all year round, except on holidays.

8. **What types of materials do you find in landfills?**

You may find almost anything in a landfill. Items you may find include food waste, corrugated boxes, paper, telephone books, plastics, glass, aluminum and steel cans, pallets, computer and electronic equipment, household hazardous waste (paint cans, motor oil, small batteries, chemical products) and other waste materials.

9. **How much garbage on average goes into a landfill each day in Mississippi?**

That is a difficult question to answer because it depends on the size area and population density that the landfill services. If you know the population of the counties that the landfill services, just multiply the population by 5 to 6 pounds (5 to 6 pounds of garbage per person per day) and that will give you an approximate average of how much garbage is coming into that landfill each day. Multiply that number by 365 days per year and divide it by 2,000 pounds per ton and you'll get the average tonnage coming to that landfill per year. This does not take into consideration any out-of-state garbage, garbage that may be coming in from other regions of the state, or recycling activities in those counties.

10. **Can we find other places to put garbage and other waste materials other than in landfills?**

Most definitely! For a price, we can recycle nearly all of the solid waste produced in Mississippi. But because the average person and business is not willing to pay those higher costs, landfills are often the chosen alternative. They tend to be the cheaper waste management option at first glance. Often we do not know what the real costs is for disposing of garbage in landfills because some of the collection and transportation costs have been historically lumped together with other city or county expenses. In addition, the true value of the resource placed into the landfill is not always considered as part of the overall value of the disposal cost. Finally, there are many other factors that can effect landfill disposal costs including subsidies, design requirements and post-closure costs. The bottom line is that the true cost of solid waste management is often difficult to measure.

11. **Can poor landfill management harm the surrounding land?**

Yes, but this applies to the management of any business operation that can impact human health and the environment. If runoff is not controlled, or if landfill gases or contaminated groundwater migrates away from the landfill, there could be some impact to surrounding property. All landfills are permitted to meet certain requirements under the law. If those requirements are not followed or there are some infractions, the landfill may be fined for not meeting those requirements. In some cases they may have to cease operation until they are able to meet the requirements set out in the law.

12. **Can a landfill cause future problems with the environment and our underground water resources?**

Landfills are built by humans and humans can make mistakes and/or systems we design may eventually fail. So yes, there could be future problems from these landfills. Most new modern landfills have not been in operation long enough for us to determine if there will be problems from these sites.

13. **What will happen if we run out of space to build new landfills?**

Although that day is still many years away, for most of us in Mississippi, there will be a time when this will truly become an issue that we will address. When a landfill is permitted for operation, normally they have purchased an extensive amount of land surrounding the facility so that as parts of the landfill become full they can build new cells where more solid waste can be placed. In the case of a landfill, the closer you get to filling up your entire permitted site, the higher the price will be to landfill solid waste – supply and demand economics. Eventually and perhaps in the very near future, recycling costs will be less than the cost of landfilling solid waste. In some areas of the U.S., this has already been realized. At that point you'll see much more recycling of materials occurring.

14. **Can and do hazardous chemicals get put into landfills?**

Hazardous chemicals can and do get put into landfills. Many household hazardous wastes are disposed of in landfills because they are not banned from being disposed of in that manner. Many hazardous industrial wastes are not placed in landfills because they are regulated by the Federal government and there are proper ways to handle these hazardous wastes at these industrial sites. Sometimes hazardous chemicals in garbage trucks are caught by trained personnel at the landfill prior to the material being landfilled. In a few cases, there may be hazardous chemicals disposed in the landfill without detection but this is the exception to the rule.

15. **Can you build anything on a landfill after it is closed?**

Landfills are used for many things that do not generally involve building structures on the surface of the landfill. These include golf courses, baseball fields, shooting ranges, and walking and hiking trails. Trees, buildings and other similar items cannot be placed on a landfill after being closed because it may destroy the final cover (clay and/or plastic liner). Because the liner is placed over the landfill to prevent erosion and to prevent water from getting into the landfill, trees and other structures can damage that liner and cause water intrusion into the landfill.

16. **What happens to the garbage after it is put into a landfill?**

After the garbage is buried in the landfill it will begin to breakdown as aerobic and anaerobic microorganisms decompose the garbage. This activity causes methane gas to be created, which is collected and burned off at one or more points on the landfill. Over time most biodegradation slows down dramatically. This happens because the anaerobic microorganisms act much more slowly on materials. If these same materials were exposed to oxygen, water and sunlight, the aerobic microorganisms would decompose the waste materials much faster.

17. **Are there gases produced at a landfill and if so what happens to these gases?**

Gases are produced in the landfill. Methane, hydrogen sulfide and other gases are produced when the anaerobic microorganisms begin to decompose the waste materials in the landfill. The methane gas produced from this biological activity is then collected in the landfill by a series of small pipes that run throughout the landfill. These pipes are connected to a vacuum pump that pulls methane gas out of the landfill to one or more sites on or near the landfill where they can be safely burned off. If the methane gas is not captured, it could migrate or move off site and cause

an explosion should it accumulate in an enclosed structure. Methane gases have also been found to be a major contributor to global warming.

### **Resource Information**

Recycling, Composting, and Pollution Prevention – contact the Recycling and Solid Waste Reduction Program at the Mississippi Department of Environmental Quality at 601/961-5036.

Landfills, Illegal Dumps and Other Solid Waste Management Issues – contact the Solid Waste Management Branch at the Mississippi Department of Environmental Quality at 601/961-5304.

Household Hazardous Waste – contact the Hazardous Waste Division at the Mississippi Department of Environmental Quality at 601/961-5220.

Littering and Litter Prevention – contact Keep Mississippi Beautiful at 1/800-545-3764.

### **Website Information**

MDEQ's Website: [www.deq.state.ms.us](http://www.deq.state.ms.us)

KMB's Website: [www.kmbpal.org](http://www.kmbpal.org)

Earth's 911 Website: [www.cleanup.org](http://www.cleanup.org)

A nation-wide website for local and state wide recycling collection sites and educational resources

## **Keep Mississippi Beautiful Affiliates**

Keep Monroe County Beautiful  
600 West Commerce Street  
Aberdeen, MS 39730  
662/369-9858

Keep Simpson County Beautiful  
728 Old Panola Braxton Road  
Braxton, MS 39044  
601/847-0846

Keep Lincoln County Beautiful  
P.O. Box 555  
Brookhaven, MS 39601-0555  
601/835-1987

Keep Leake County Beautiful  
101 Court Square  
Carthage, MS 39051  
601/267-3021

Keep Clarksdale Beautiful  
P.O. Box 940  
Clarksdale, MS 38614-0940  
662/621-8147

Keep Cleveland Beautiful  
P.O. Box 490  
Cleveland, MS 38732-0490  
662/386-3146

Keep Columbus/Lowndes Beautiful  
P.O. Box 1408  
Columbus, MS 39703-1408  
662/386-3146

Keep Corinth Beautiful  
P.O. Box 1089  
Corinth, MS 38835-1089  
877/347-0545

Greenville Pride Committee  
340 Main Street  
Greenville, MS 38701  
662/378-1554

Harrison County Beautification  
P.O. Drawer CC  
Gulfport, MS 39502  
228/214-1405

Keep Hattiesburg Beautiful  
P.O. Box 1898  
Hattiesburg, MS 39403-1898  
601/545-4667

Keep Copiah County Beautiful  
P.O. Drawer 150  
Hazlehurst, MS 39083-0150  
601/894-4126

Keep Jackson Beautiful  
931 Hwy 80 West, Unit 67  
Jackson, MS 39204  
601/352-1808

Keep Jones County Beautiful  
P.O. Box 527  
Laurel, MS 39441-0527  
601/649-3031

Keep Madison County Beautiful  
23 Sandlewood  
Madison, MS 39110  
601/856-9756

Keep Simpson County Beautiful  
693 May Grove, Church Road  
Mendenhall, MS 39114  
601/849-3284

Keep Meridian/Lauderdale Beautiful  
P.O. Box 1430  
Meridian, MS 39305-1430  
601/485-1996

Keep Morton Beautiful  
624 East 4<sup>th</sup> Avenue  
Morton, MS 39117  
601/732-8790

Keep Natchez/Adams County Beautiful  
47 Mazique Lane  
Natchez, MS 39120  
601/446-70668

Keep New Albany/Union County Beautiful  
P.O. Box 56  
New Albany, MS 38952-005  
888/534-8232

Pascagoula KAB System  
P. O. Box 908  
Pascagoula, MS 39568-0908  
228/938-6612

Tupelo Clean and Beautiful  
P. O. Box 1485  
Tupelo, MS 38802-1485  
662/841-6510

Keep Vicksburg/Warren County Beautiful  
P. O. Box 820162  
Vicksburg, MS 39182  
601/636-4048

For additional booklets contact  
Larry Estes, State Recycling Coordinator  
MS Department of Environmental Quality  
601/961-5036 or email [larry\\_estes@deq.state.ms.us](mailto:larry_estes@deq.state.ms.us)  
[www.deq.state.ms.us](http://www.deq.state.ms.us)